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09/601,226	10/11/2000	Wolfgang Bohrer	67190/983053	8560

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EXAMINER

LAM, DANIEL K

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 01/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/601,226

Applicant(s)

BOHRER ET AL.

Examiner

Daniel K Lam

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 16 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

DETAILED ACTION

*Specification*

1. The disclosure is objected to because of the following informalities:

On page 17, in line 20, "write" addressing mechanism should be "read" addressing mechanism instead. Correction is required.

*Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,982,185 issued to Holmberg et al. in view of U. S. Pat. No. 4,847,613 issued to Sakurai et al.

Regarding claim 11, Holmberg et al. discloses a method for communication among equal-access stations of a ring-shaped network, comprising:

- a) During one bus cycle, a predetermined one of the stations generating strictly time-cyclical container messages, and supplying the container messages to the bus, the predetermined one of the stations supplying a synchronization message to the bus

- as an end message of the bus cycle (see fig. 1 reference 11, MASTER NODE, and col. 2, lines 32 to 58).
- b) Each one of the stations writing respective data in the container messages addressed to the one of the stations (see fig. 2D reference 70, DATA TRANSFER MESSAGE, and col. 5, lines 17 to 35).
  - c) Each one of the stations reading data of written-in container messages on the serial bus as a function of a read authorization of the one of the stations (see fig. 2B reference 50, DOWNLOAD NETWORK PARAMETERS MESSAGE, and col. 4, lines 31 to 46).
  - d) Each one of the stations reading the synchronization message and generating a respective interrupt as a function of the synchronization message, wherein depending on a respective position of each one of the stations, the respective interrupt being time delayed so that all of the respective interrupts are output in a time-synchronous manner (see fig. 2C reference 60, SYNCHRONIZING MESSAGE, and col. 4, lines 51 to 59).
  - e) Further processing the read data when the respective interrupts are output (see col. 4, lines 59-63).

However, Holmberg et al. does not disclose the limitations of serial fiber-optic bus and addressing the container messages.

Sakurai et al. discloses an apparatus using optical fiber to form a serial loop shaped bus (see fig. 10 reference 6, and col. 1, lines 34 to 42) and addressed the container messages (see fig. 2 reference AI, Address Information, and col. 6, lines 41 to 46).

Therefore, it would have been obvious to those having ordinary skill in the art to deploy optical fiber connecting each individual station serially and address each station in the container message for couple of reasons. Firstly, serially optical fiber can reduce the number of wiring needed to connect each station and optical fiber has high noise immunity since there are many noises at the vicinity of the automatic machine (see col. 1, lines 24 to 33 of Sakurai et al). Secondly, having a unique address in the container message, information can be transferred to each station individually (see col. 6, lines 41 to 46 of Sakurai et al.)

Regarding claim 12, in addition to disclose the limitations regarding claim 11 in the previous paragraph, Holmberg et al. further discloses the time delay is determined according to the equation,  $t(vz, n) = [N - (n - 1)] * 3B$  (see col. 4, line 64 to col. 5, line 16).

Regarding claims 13 and 14, in addition to disclose the limitations regarding claim 11 in the previous paragraph, Holmberg et al. further discloses the serial bus addressed blank messages following a last addressed container message and outputting special messages for filling up the bus cycle between the last generated addressed message and the synchronization message (see col. 5, lines 47 to 57).

Regarding claim 15, in addition to disclose the limitations regarding claim 14 in the previous paragraph, Holmberg et al. further discloses the addressing and supplying of the

container messages is carried out in accordance with an increasing address part (see col. 4 lines 5 to 16).

Regarding claim 17, Sakurai et al. discloses a device for providing communication among equal access stations of a ring-shaped, serial fiber-optic bus, comprising:

- a) A respective interface module at each of the stations (see fig. 11 and col. 1 lines 54 to 62).
  - b) Two respective bus connector sockets at each of the stations, each respective interface module being connected to the serial bus via the two respective bus connector sockets (see fig. 11 references 8 and 12).
  - c) Wherein one of the stations is parameterized as a dispatcher station, and others of the stations being parameterized as transceiver stations, the dispatcher station including a list of all messages to be transmitted, and each of the transceiver stations having a read authorization (see fig. 10 references Master station and substation, and col. 1, lines 34 to 42).
4. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,847,613 issued to Sakurai et al. in view of U. S. Pat. No. 5,941,966 issued to Gotze et al.

Regarding claim 18, in addition to disclose the limitations regarding claim 17 in the previous paragraph, Sakurai et al. further discloses that each respective interface module includes an opto-electrical and electro-optical converter (see fig. 11 references 8 and 12. However, he does not disclose that each interface module includes a programmable

microchip having an associated erasable read-only memory, a read-write memory, and a clock generator, each respective interface module including a system connector, and a voltage source, each of the respective bus connector sockets being linked to the programmable microchip by the converter, the programmable microchip being connected to the system connector via signal lines.

Gotze et al. discloses a device includes programmable microchip having erasable read-only memory, read-write memory, clock, and a voltage source (see fig. 4 references 500, 530, 540, 550, and 560). Furthermore, each of the respective bus connector sockets being linked to the programmable microchip by the converter, the programmable microchip being connected to the system connector via signal lines (see fig. 4 references 510, 515, and 520, and col. 5, lines 27 to 38).

Therefore, it would have been obvious to those having ordinary skill in the art to design an interface module using programmable microchip, RAM, EROM, opto-electrical and electro-optical converter, system connector, bus connector etc so that the interface module can be used in different type of data buses, and, hence, the cost of manufacturing the module can be reduced (see col. 2, lines 22 to 33 of Gotze et al.)

Regarding claim 19, in addition to disclose the limitations regarding claim 17 in the previous paragraph, the interface module includes light-emitting diodes for status display (see fig. 4, references 570 and LCD, and col. 5, lines 34-36).

*Allowable Subject Matter*

5. Claims 16 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

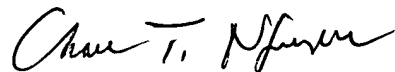
*Contact Information*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

DKL  
December 29, 2003



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